

Amendments to the Claims

1. (currently amended) A method of cleaning a dynamic device, comprising the steps of:

providing a steam source;

providing a surfactant source;

providing a solvent source;

delivering steam from said steam source to said device;

removing vaporized contaminants ~~vaporous effluent~~ from said device while steam is delivered to the vessel;

introducing an organic solvent from said solvent source into the steam delivered;

introducing a surfactant from said surfactant source into the steam delivered to the device; and

activating the device for a period of time when one or both of said solvent and surfactant are being delivered.

2. (currently amended) The method of claim 1 including the additional step of preheating the device to a minimum temperature with said steam prior to the induction of the organic solvent and surfactant.

3. (original) The method of claim 1 wherein the surfactant comprises a linear alcohol ethoxylate (C12 – C15) with an ethoxylated propoxylated end cap and a fatty alkanolamide.

4. (original) The method of claim 1 wherein said surfactant comprises at least one of nonylphenol polyethoxylate, a straight chain linear alcohol ethoxylate, a linear alcohol ethoxylate with block copolymers of ethylene and propylene oxide, an oleamide DEA, and diethanolamine.

5. (cancelled)

6. (currently amended) The method of claim 1 ~~5~~ wherein the organic solvent comprises a terpene.

7. (original) The method of claim 6 wherein said terpene is a monocyclic saturated terpene.

8. (original) The method of claim 7 wherein said terpene is para-menthane.

9. (original) The method of claim 6 wherein said terpene is a monocyclic unsaturated isoprenoid.

10. (original) The method of claim 6 wherein said terpene is a bicyclic pine terpene.

11. (original) The method of claim 1 wherein the surfactant and solvent are introduced into said steam by joining said steam, surfactant, and solvent sources.

12. (original) The method of claim 11 wherein said joining is accomplished using a T-fitting.

13. (original) The method of claim 1 wherein said device is a pump.

14. (original) The method of claim 1 wherein said device is identified for maintenance using vibration analysis.

15. (cancelled)

16. (cancelled)

17. (currently amended) A method of removing contaminants from the metal surfaces of a dynamic device in a refinery, comprising the steps of:

delivering steam to the device;

~~administering cleaner to the internal surfaces of the device;~~

~~activating the device.~~

introducing an organic solvent into the steam delivered;

introducing a surfactant into the steam delivered; and

activating the device for a period of time when one or both of said terpene and surfactant are being delivered.

18-19. (cancelled)

20. (currently amended) The method of claim 17, comprising:

removing vaporized contaminants ~~vaporous effluent~~ from said device while said organic solvent and said surfactant are being introduced. ~~steam is delivered to the vessel;~~

~~introducing a solvent from said solvent source into the steam delivered;~~

~~introducing a surfactant from said surfactant source into the steam delivered to the device; and~~

~~activating the device for a period of time when one or both of said solvent and surfactant are being delivered.~~

21. (new) The method of claim 17 comprising:

selecting a device through which processing fluids normally flow in a first direction; and

directing said steam, terpene and said surfactant through the device in a direction opposite said first direction.

22. (new) The method of claim 17 comprising:

venting the device.

23. (new) The method of claim 1 comprising:

venting the device.